## XXVIII.—*On the Fructification of* Gloiosiphonia capillaris, *Carm.* By the Rev. David Landsborough*.

[With a Plate.]

In the May Number of the 'Annals of Natural History' there is an interesting article by William Henry Harvey, Esq., at the close of which that distinguished botanist says, "Many interesting additions to our marine flora may be expected from Mr. M'Calla's researches on the west coast of Ireland. In addition to the present new species (*Codium amphibium*), he has already found fine specimens of some very rare Algæ, as *Gloiosiphonia capillaris, Conferva rectangularis* and others." The *Conferva* I don't know, but the *Gloiosiphonia* was found by me last year in the bay at Saltcoats; I observed it at low water in a little channel betwixt two rocks, and as I was retreating with all convenient speed from the returning tide, lest I should be circumvented as I had been some days before. I snatched only a small portion from a large growing bunch of it, thinking that it was some common thing in rather an uncommon aspect. On floating it in fresh water, spreading it on paper, and exposing it to the air, in a very short time it changed from a dull brownish red to a fine crimson colour. On examining it I was led to conclude that it was *Mesogloia,* now *Gloiosiphonia capillaris,* Carmich.; but to be quite sure I sent a specimen of it to Mr. Ralfs of Penzance, who has often skilfully and obligingly resolved my algological doubts, and he soon returned it named *Gloiosiphonia capillaris.*

My son and daughter found it again this season, early in June, in the same place; at ebb tide it was found rather abundantly in shallow water, but what was thus found was of a dirty yellow colour, and on being spread out it changed only to pale pink. David found better specimens by wading to a considerable depth, and catching the plants with his toes. The plants found in deep water had a reddish tinge, and on being floated in fresh water and exposed to the air they soon changed into as bright a red as *Delesseria sanguinea,* and made very beautiful specimens.

One little specimen he found was rich in fruit; and I write this to describe its three kinds of fructification, *all* of which I have not seen described, although it may have been done unknown to me. The specimen found by my son had only one kind of fructification, and that was very like the hemispherical fruit of *Plocamium coccineum,* except that it was surmounted by a process which gave it an urceolate appearance, or it might be likened to the boss of a buckler (Pl. IV. fig. 4. *a*). The hemispherical base was full of purple-coloured matter.

* Read to the Botanical Section of the Glasgow Philosophical Society, June 25th, 1844.

A specimen with different fruit was found by my daughter on the shore at Ardrossan. It had not the hemispherical urceolate capsules, but it had instead purple tufts not unlike the fruit of *Odonthalia dentata*: they had the appearance of a little mass of short truncate ramuli. In general they were sessile, but in one case the mass was raised on a short purple pedicel (Pl. IV. fig. 3. *a*).

The third kind of fructification consists of granules *imbedded* in the branches. In the specimens with tufted fructification these were small, of a purple colour, and situated in the upper ramuli, to which they gave a dotted appearance (Pl. IV. fig. 4. *b*). What I am disposed to think the most common kind of fructification occurred in other specimens, viz. large *buff-coloured* granules generally imbedded in distorted ramuli (Pl. IV. fig. 5). At times they are only partially imbedded, producing protuberances which are filled with countless very minute granules around the large granule. At other times the large buff-coloured granules are quite external but sessile, at a certain stage falling off, not to be lost in the depths of ocean, but in all likelihood to produce a fresh generation of young *Gloiosiphoniæ*.

Of these large buff granules there are seldom more than three in one branch, whilst the small granules imbedded in the ultimate branches are like purple points or dots, very numerous, but quite distinct from each other.

I may also state that the ultimate ramuli generally seemed jointed like *Ceramium rubrum*, and of a pink colour; yet there were occasionally intermingled little branches with fawn-coloured joints and white articulations so very like *Ceramium diaphanum*, that I should have concluded that this *Ceramium* had fastened as a parasite on the *Gloiosiphonia*, had I not seen that the same little branch which set out as a *Gloiosiphonia*, without any warning given suddenly assumed the aspect of *C. diaphanum*.

EXPLANATION OF PLATE IV.

*Fig.* 1. Capsule of *Polysiphonia parasitica*.
*Fig.* 2. *Polysiphonia parasitica*, with granules and dwarf capsule.
*Fig.* 3. *Gloiosiphonia capillaris*: *a*, tuft of fruit.
*Fig.* 4. Ditto, ditto: *a*, capsule; *b*, small imbedded granules.
*Fig.* 5. Ditto, ditto, with large granules in distorted ramuli.

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## XXIX.—*Brief Descriptions of several Terrestrial* Planariæ, *and of some remarkable Marine Species, with an Account of their Habits.*

By Charles Darwin, F.R.S., V.P. Geol. Soc.

[With a Plate.]

In my Journal I have given a brief account of the discovery of several species of terrestrial *Planariæ*: it is my intention here to